R E P O R T R E S U M E S

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A COMPARISON OF THE TRIMESTER AND FOUR-QUARTER CALENDARS FOR YEAR-ROUND OPERATION OF PUBLIC HIGHER EDUCATION IN CALIFORNIA.

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THE REPORT IS CONFINED TO THE QUESTION OF THE PREFERABLE CALENDAR FOR THE UNIVERSITY OF CALIFORNIA AND CALIFORNIA STATE COLLEGES, AND IS NOT SPECIFICALLY CONCERNED WITH THE UNDERLYING REASONS FOR INSTITUTION OF YEAR-ROUND OPERATIONS, SUCH AS POSSIBLE LONG-TERM SAVINGS IN COSTS AND BENEFITS TO STUDENTS. THE FOUR-QUARTER CALENDAR IS SUGGESTED OVER THE TRIMESTER BECAUSE OF ITS GREATER FLEXIBILITY AND BETTER ARTICULATION WITH OTHER EDUCATIONAL INSTITUTIONS. FOR GRADUATES OF JUNIOR COLLEGES, THE PROBLEMS OF ARTICULATION ARE ABOUT THE SAME AS FOR GRADUATES OF HIGH SCHOOLS. PRESIDENTS OF JUNIOR COLLEGES INDICATE A 4-QUARTER CALENDAR WOULD BEST ARTICULATE WITH THEIR PRESENT SYSTEM. BEST RESULTS, THOUGH, WILL BE OBTAINED IF THE UNIVERSITY SYSTEM, THE STATE COLLEGES, AND THE PUBLIC JUNIOR COLLEGES HAVE THE SAME SYSTEM WIDE BASIC CALENDAR. WITH THE NUMBER OF GOVERNING BOARDS IN CHARGE OF THE PUBLIC JUNIOR COLLEGES, IT IS NOT FEASIBLE TO OBTAIN WITH ANY DEGREE OF IMMEDIACY A UNIFIED ACTION ON YEAR-ROUND OPERATION. MOREOVER, WITH THE GREAT RANGE IN FULL-TIME ENROLLMENTS AMONG THE JUNIOR COLLEGES, STATEWIDE ACTIONS SHOULD EXEMPT THOSE COLLEGES WITH MINIMAL ENROLLMENT. (HS)

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A Comparison of the Trimester and Four-quarter Calendars for Year-round Operation of Public Higher Education in California

UNIVERSITY OF CALIFORNIA
LOS ANGELES

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A REPORT OF THE COORDINATING COUNCIL FOR HIGHER EDUCATION

SACRAMENTO AND SAN FRANCISCO

FEBRUARY 1964

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PREFACE

The following report prepared by the staff of the Coordinating Council for Higher Education explores the merits of the trimester and four-quarter calendars as mechanisms for the year-round operation of higher education facilities. The report is confined to the question of the preferable calendar and is not specifically concerned with the underlying reasons for institution of year-round operations, such as possible long-term savings in costs and benefits to students. It is assumed that the year-round operation of academic facilities toward the goal of the fullest possible use of available facilities is a desirable objective--an objective supported by extensive factual data which reflect rising costs largely resulting from increasing enrollments.

The Council is, of course, directly concerned with the cost aspects of year-round operation as are the segments of higher education. It is clear that programs must be maintained at quality levels within the expanded calendar. Periodic reports, together with the findings of the Council and the segments, will be developed from time to time as full operation throughout the year becomes a reality. Such a reporting is being made to the State Legislature during the 1964 Session.

While the four-quarter and trimester calendars were determined to be the most worthy of consideration in depth as the vehicles for institution of year-round operation, the Council staff has also examined other possible calendars. Summaries of these studies are to be found in the Appendix concerning the 16-16-12, the 16-16-6-6 and the 18-18-12 calendars.

The Council staff has been assisted in the preparation of this report and its recommendations by a Technical Committee for the Year-Round Calendar composed of representatives of the segments of higher education and including, as well, representation for the secondary schools of the state. Membership of that committee included: Howard Brooks, Associate Dean of the Graduate Division, Stanford University; Frank B. Lindsay, Chief, Secondary Education, Department of Education; Stuart M. White, President, Fresno City College; M. Bruce Fisher, Dean of Student Affairs and Institutional Relations, California State Colleges, and Frank L. Kidner, Dean of Educational Relations, University of California.

The report was considered by the Council's standing Committee on Educational Programs during the fall of 1964. Recommendations were approved by the Council on January 28, 1964, and are summarized at the beginning of the report.

RESOLUTION OF THE COUNCIL[1]

Resolved:

1. That the Coordinating Council reaffirms its desire that the Regents of the University of California and the Trustees of the California State Colleges proceed with year-round operations, either campus-by-campus or systemwide, as feasible and as needed to meet student demands with the optimum use of existing buildings and facilities.

2. That the Coordinating Council considers the quarter system to be the best method of achieving year-round operations and that final calendars adopted by the University of California and the California State Colleges be sufficiently articulated to provide ease of transfer from Junior Colleges and high schools.

3. That the Regents of the University of California and the Trustees of the California State Colleges develop a tentative schedule for achieving year-round operations, as defined within this report, on selected or all campuses and colleges; and such schedule and a statement of reasons supporting it to be transmitted to the Coordinating Council for its information and comment as appropriate.

4. That since two years of advance lead time are required to place year-round operations into effect, and consequently that if year-round operations are to begin in 1966-67 at selected campuses and colleges, it is necessary for the 1964 Legislature to declare its intent to support year-round operations at the full level of quality.

5. That the Coordinating Council, on behalf of the University of California and the California State Colleges, seek to determine the intent of the Legislature with respect to financing year-round operations at the 1964 session of the Legislature.

6. That each segment determine whether it will augment the summer quarter at campuses on full four-quarter operations by the addition of special summer school offerings designed primarily for teachers and other special groups.

7. That the Junior Colleges, the State Department of Education, the State Board of Education and the Legislature cooperate in bringing about the necessary statutory modifications to permit Junior Colleges to change their academic calendars should they determine that to be desirable.

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[1] Adopted January 28, 1964.

8. That in the light of recommendation no. 1, above, each Junior College governing board appraise the recommendation's impact upon the transfer of its students, articulation with other segments of education, and other related matters; and on that basis determine the advisability of conversion to a four-quarter calendar.

9. That the governing authorities of such private colleges and universities in the state as now operate on a calendar different from that recommended above be invited to consider the advantages which might accrue to their institutions if they were on the same academic calendar as the public segments.

10. That no later than five years after the first campuses in the University and the State Colleges have a full four-quarter plan in operation, the Council carefully review the operation of such plan for the purpose of such modifications of these recommendations as may be appropriate, this review to pay particular attention to the degree to which balanced enrollments among the quarters has been achieved.

INTRODUCTION

With the rapid expansion of student enrollments and with the increasing costs of education, ways and means have been sought in recent years to accommodate greater numbers of students at lesser proportionate cost. An important method of achieving this goal is the establishment of year-round academic calendars and the operation of higher education institutions on a year-round basis.

In awareness of this and taking note of the problem of serving California's many students, the Master Plan for Higher Education provided that the Coordinating Council study:

> ...The relative merits of three-semester and four-quarter plans for year-round use of physical plants of both public and private institutions, and on the basis of that study recommend a calendar for higher education in California.[1]

Since the time of the adoption of the Master Plan, the segments of public higher education and the Council have studied the feasibility and methods for conversion to year-round use of facilities. Studies and discussions within the segments reached a stage in mid 1963 when it was appropriate for the President of the University of California and the Chancellor of the California State Colleges to request formal consideration of the subject by the Council.

Consequently the Council Committee on Educational Programs met June 10, 1963, and directed the staff of the Council together with the educational segments to formally report on the matter of year-round use of facilities. The Committee resolution, approved by the full Council on June 25, 1963, stated:

> RESOLVED, that the Coordinating Council for Higher Education Committee on Educational Programs express itself as definitely in favor of the greater utilization of all higher education facilities and personnel through enhanced year-round operations, and be it further
>
> RESOLVED, that the Committee on Educational Programs recommends to the Coordinating Council that the staff of the Council, in close association with all other segments of higher education in California, study the matter of year-round use of facilities and report to the Council not later than October 29, 1963, and be it further

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[1] A Master Plan for Higher Education in California, 1960-1975 (Sacramento: California State Department of Education, 1960), p.8

RESOLVED, that this action should not be taken to preclude the governing boards of the segments of higher education from taking tentative action for planning purposes during the interim period.

In addition, interest has been shown recently by the State Legislature in the general subject of the year-round use of facilities. Senate Resolution 123 (1963 General Session) recommended study of all aspects of the possible requirement to maintain public schools for 12 months of the year. SR 199 (1963 General Session) has called for interim study of the feasibility of establishing trimester or four-quarter calendars in elementary and secondary schools. In addition SR 231 introduced during the 1963 session called for a study "to fully explore the potential savings possibilities of year-round operation for all public higher education." Although this resolution was not voted upon, it is reported that its subject matter will receive study in the interim period. It should be noted, initial legislative approval of the establishment of year-round operations -- and its concept -- was secured in the 1962-63 budget for the University of California although the funds appropriated, $600,000, were not used during the budget year.

Finally, the Legislative Analyst has expressed interest for the past several years in the advantages of year-round operations, and has urged the full discussion of the subject before the Legislature.[1] The Analyst has expressed support for planning and development funds for the Trustees of the California State Colleges in 1964-65 to conduct program revision required preparatory to institution of year-round calendars.[2]

This report is concerned with the year-round operation of facilities for higher education and the academic calendar necessary to achieve the full-year use of facilities. Therefore, it is appropriate at the outset to establish the elements necessary before it may be said a given institution is operating year-round. These elements have been derived from a study of the literature and discussion with California educators and may be set forth as follows by way of a definition of year-round operation:

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[1] See Analysis of the Budget Bill; Report of the Legislative Analyst ... (Sacramento: California Legislature, February 1964), pp. 235-8.

[2] University funds for similar purposes have previously been made available by action of the Regents.

A college is operating year-round when the following conditions usually prevail:

1. A beginning freshman may enter at the start of any term--whether a segment of a three-term calendar (trimester) or four-quarter calendar.[1]

2. Transfer students may enter at the beginning of any term.

3. As a general rule, both entering and continuing students can enroll in courses which enable them to make a full term's progress toward their desired degree.[2]

4. Almost all students can continue in college for any number of consecutive terms in each of which they can make a full term's progress toward their desired degrees.

5. Optimum use of physical plant is made for at least 48 weeks annually; such optimum use to include providing space for advising students, registration, instruction and testing.

6. Student enrollment is roughly the same in all terms.[3]

To establish an orientation for examining the aspects of year-round operation of higher educational institutions and establishing a 12-month academic calendar, this report first presents a brief review of studies conducted to date by the segments concerning academic calendar patterns and year-round use of facilities. Next, the benefits and problems of the establishment of year-round operation of higher education institutions are examined followed by comparison of the trimester and four-quarter calendars. The following portion compares the possible magnitude of costs to be expected under each calendar and the final section presents conclusions which may be drawn.

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[1]However, some colleges using a four-quarter calendar may choose not to admit freshmen into a specific quarter, such as the winter quarter.

[2]Elective courses with customarily small enrollments will usually be scheduled only once in a 12-month year. Similar scheduling will usually be used for required courses in majors which are desired by relatively few students.

[3]See discussion, following, concerning the distribution of students among terms. This discussion points out the difficulties in securing a <u>complete</u> balance.

STUDY OF THE YEAR-ROUND CALENDAR IN CALIFORNIA

Academic calendars designed to encompass the full calendar year are by no means a recent development. For example, Harvard University from 1638 to 1801 operated within a four-term (quarter system) calendar, and from 1801 to 1839 on a three-term plan (trimester). Over the years other institutions have operated year-round within these two kinds of academic calendars.[1] More recently, year-round operations have been instituted in state systems. For example, Florida began operations on a trimester plan in all public universities in the fall of 1962 with terms beginning on September 3, January 22, and April 24.

In recent years interest has developed in California concerning year-round operations. The Restudy of the Needs for California Higher Education in 1955, among its proposals for increasing plant utilization stated: "For a more fundamental change, shift an institution's schedule from a two-semester (or three-quarter) and summer sessions to a full four-quarter year-round operation."[2] And later, the Master Plan Survey Team found a crucial point to be " ... the adoption of a system or other means which would allow an equal distribution of students throughout the whole calendar year and thereby make full use of existing facilities."[3]

Year-round operation is not entirely new to the University of California. During the World War II emergency three 16-week terms were employed. From 1942 through 1946 the three terms were operated generally within the dates: June 25 -- October 3, October 8 -- February 6; and February 11 -- June 12. In addition, two 8-week summer sessions were held concurrently with the summer term.

While no systematic appraisal was conducted of the experience, individuals comment that it was difficult to maintain University quality especially in view of the fatigue caused by continual attendance by students and extended instruction by faculty (there was no limit to the number of terms staff members could teach).

Recently discussion of the institution of a year-round calendar and year-round use of facilities at the University of California has been conducted at various levels of the University faculty and administration. At the start, emphasis was placed upon fuller use

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[1] W. H. Cowley, A Study of the Relative Merits of the Quarter and Semester Systems, (Columbus: Ohio State University, May 1932), Table 1, p. 5.

[2] (Sacramento: State Department of Education, 1955), p. 319.

[3] Master Plan, p. 95.

of summer sessions. During 1960 and 1961 specific calendars were discussed including the 16-16-12 week "hybrid" plan and the 16-16-6-6 plan. By February 16, 1961, discussions and study had reached a point where it was appropriate for the Regents to approve in principle the year-round operation of the Berkeley and Los Angeles campuses.

Resulting from the Regents' action, the Governor's Budget for 1962-63 appropriated $600,000 towards the year-round operation of the University with the assurance that $3 million would be included within the 1963-64 budget to complete financing of operations during the summer months of 1963. However, subsequent consideration indicated the desirability of delaying institution of a new calendar. Consequently, on June 22, 1962, the Regents approved postponement of year-round operation to the academic year 1964-65. The question of the kind of year-round calendar was left open for further discussion.

During the past year University officials have directed their studies toward determining the appropriate calendar to be instituted and the articulation of such a calendar with those of the other segments of education. In addition polls of faculty, academic senate committees, administrators and students have been taken to determine preferences for calendars.

These researches led the President of the University to report:

> Concerning the calendar for year-round operation, there is no clear preference within the University. The faculty has slightly preferred a three-term plan; the students a quarter system. Even as to preservation of the status quo, there is no clear view -- faculty members who voted on this issue (Berkeley and Davis) in total split exactly even for and against, 522 to 522. The Senate Committee on Educational Policy favors three terms; the Senate Committee on Budget and Interdivisional Relations favors the quarter system. The Chancellors, after weighing all the evidence and all the expressions of opinion, have generally expressed their preference for the quarter system.[1]

Recently, the Regents took action supporting the quarter system. The Regents on December 13, 1963, resolved:

(1) That the Regents reaffirm their intention to establish year-round operation at the earliest possible date, and that the President be authorized to proceed with preparation for year-round operation on at least one campus of the University, beginning in 1966-67;

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[1] University Bulletin, vol. 12, July 1, 1963, p. 1.

(2) That the Regents endorse the quarter system as the most appropriate calendar arrangement for the conduct of year-round operation;

(3) That the President be authorized to propose to the Coordinating Council for Higher Education that the Council endorse year-round operation on the quarter system with full maintenance of standards of quality heretofore achieved, and that the Council be asked to assist in ascertaining the views of the Governor and the Legislature concerning the necessary financial support.

(4) That it be the policy of The Regents to make no actual change in calendar until such time as financial support sufficient to put one or more campuses on year-round operation with full maintenance of standards of quality is assured; and

(5) That the President be authorized to allocate, at his discretion, the $250,000 previously appropriated for studies of curricular and educational changes associated with a new calendar and year-round operation.

At the present time University officials at both the statewide office and on campuses are engaged in planning aspects of conversion to year-round operation.

While none of the California State Colleges may be said to have experience with the year-round use of facilities, experience has been gained on specific campuses in the quarter system academic calendar. At the present time California State Polytechnic College and the California State College at Hayward employ such a calendar and have sought to build enrollments during the summer quarter to more closely achieve balanced enrollments among terms.

As the University, the State Colleges have been concerned in recent years with development of the year-round calendar although study has tended to concern individual campuses rather than the system as a whole. At San Francisco State College a report dated May 12, 1961, was prepared by a staff committee with the assistance of consultants. Among the findings in the report were: (a) approximately 1/2 of the students enrolled during the two previous summer sessions were enrolled in the college during the previous academic year; (b) during the 36 weeks of the regular academic year the rate of plant utilization is about 90% of the standard, however, during the ten-week summer session this rate drops to 17% of the standard, and (c) cost per student credit hour during the regular academic year was $33.66 as compared with $18.57 during the summer session.

In addition to recommending further study of the calendar problem the committee agreed "that the College should move towards a more effective year-round operation that would facilitate graduation in less than four years (for all students so motivated and in majors where numbers are sufficient) and at the same time would achieve a greater utilization of instructional facilities."

Also in 1961 discussions were held on a statewide level by a committee which recommended that extensive study and deliberation should be conducted by each College with a summary report to be made in September 1962 by a continuing, statewide committee. Since that time, study has been made on individual campuses and by the Chancellor's office concerning calendar, finance and matters affecting conversion problems.

Most recently, the Trustees on January 24, 1964, approved the following resolution expressing support for year-round operations and the four-quarter calendar.

WHEREAS, The Board of Trustees of the California State Colleges recognizes the need for year-round operation in order to achieve maximum utilization of the physical facilities of the State Colleges; and

WHEREAS, The maintenance and improvement of the quality of educational programs is of paramount importance in the implementation of year-round operation; and

WHEREAS, The establishment of true year-round operation depends upon adequate financial support from the Legislature, both for planning and for implementation: now, therefore, be it

RESOLVED, By the Board of Trustees of the California State Colleges, that the Board declares its intent to increase the utilization of physical facilities and to provide opportunity for students to accelerate their educational progress by establishing year-round operation in each of the State Colleges at the earliest feasible date, and as financial support is provided; and be it further

RESOLVED, That after further consideration of reports on the trimester, 18-18-12 week schedule, and the quarter system, the quarter system is adopted for purposes of year-round operation; and be it further

RESOLVED, That changes in calendar to a quarter system be made where necessary, campus by campus, as individual colleges are prepared for year-round operation; and be it further

RESOLVED, That subject to available funds, pilot programs on a quarter system basis be established in selected colleges, the first two such programs to be placed in operation by the 1965-66 academic year.

To date no concentrated study has been made by either the Junior Colleges or the high school toward the establishment of the year-round school year nor the year-round operation of facilities.[1] However, individual Junior College and high school officials, as well as the State Department of Education, have been most interested in the progress made by the State Colleges and the University toward year-round operation especially in respect to the articulation of calendars among the systems.

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[1]Statutory limitations upon the number of days in which a Junior College or high school must operate and current formulas for State apportionment preclude extensive calendar revision at this time.

BENEFITS AND PROBLEMS OF YEAR-ROUND OPERATION OF INSTITUTIONS

The segments of public higher education in California, specifically the California State Colleges and the University of California, together with the Legislature and its staff have determined that it is desirable to work toward the year-round use of facilities. In the determination of proper calendars to achieve year-round use, financing of expanded programs, and the mechanics of conversion, it is necessary to review the problems connected with year-round operation for California colleges. To adequately judge the significance of these problems, it is appropriate to first examine the benefits which may accrue with the establishment of programs designed to accomplish year-round operation.

At the outset, however, it is essential to take note of a controlling element in any conversion to year-round operation -- the distribution of students among terms -- for without a reasonably balanced distribution, maximum use of physical plant and instructional resources cannot be obtained or true year-round operation be achieved.

The Distribution of Students Among Terms

Three concepts can control procedures used to distribute students among terms: controlled balanced enrollment, compulsory acceleration of attendance, and advised student choice of attendance pattern.

Controlled balanced enrollment[1] involves three essential conditions: (1) terms of equal length, character and status; (2) equal admissions every term, and (3) as many full length terms as can be fitted into the calendar year.

Equality in character refers to such factors as breadth of course offerings, student activities, presence of distinguished faculty, etc., which, in effect, make terms interchangeable. Equality in status implies the same rate of payment in each term for such items as faculty salaries, student fees and room charges.

Equal admissions every term can result only when applicants are assigned to specific terms, i.e high school graduates are told when they may begin college, with extremely limited opportunity for choice. Further, if complete balance is the goal, each entering group is assigned to specific subsequent terms over a period of four years. Unless this is done, many students may revert to traditional patterns of attendance and as a result enrollment may move out of balance. Continuing enforcement of the distribution among terms is a sine qua non of balanced enrollment. Such balanced enrollment results in more efficient use of plant, since it is used at the same rate each term.

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[1]Nelson Associates, Increasing College Capacity by Calendar Revision, (New York: State University of New York, 1961), pp. 18-9.

Compulsory accelerated progress toward graduation also involves three essential conditions: (1) terms of equal length, character and status; (2) allowing students to enter at the beginning of any term, and (3) requiring students to attend college for consecutive terms in order to graduate in the least number of calendar years. Accelerated progress toward graduation results in more efficient use of plant, since students are required to attend all terms.

Requiring students to enter college at the start of a specific term and to attend subsequently only in assigned terms, or requiring them to attend all consecutive terms until graduated would be a drastic departure from present practices. Most college administrators prefer to use other means to distribute students among terms.

Advised student choice of attendance pattern is a third concept in the distribution of students among terms. Within it students are permitted to choose patterns of terms in which to attend college after being advised of advantages and disadvantages of alternative patterns.

Some advantages may be attached to starting college in a specified term, such as guaranteed housing, preference in parking, presence of particularly distinguished faculty, or scheduling highly desired courses. Other advantages will be seen by advisors as they review the records of students, confer with them about their goals and needs, and help them plan what to do in college and when to do it. If advisors are fully informed about the desirability of balanced enrollment and of accelerated progress toward graduation, their advice can be directed toward these ends when they do not conflict with students' needs.

Colleges or campuses which initiate year-round operation will probably prefer to use advice and allurement rather than compulsion. However, the necessity of greater control may arise when the number of persons desiring to enter college rises sharply in relation to available space.

Benefits of Year-Round Operation

Support for the establishment of year-round operations may be found in the benefits often cited in the literature of the subject. These benefits or advantages apply to students, faculty and to agencies responsible for providing facilities and support for operations.

Year-round operations provide education for the largest possible number of students in a given physical plant. When students are able to enter at the start of any term throughout the year and

when they are required, or advised, to attend subsequent terms so that enrollment is roughly equal in each term, more students are admitted, more attend each term and more are graduated within a specific time span.

Requirements for capital outlay funds are both delayed and reduced while income to fund auxiliary enterprises is increased. Existing facilities are able to provide space for more students in year-round operation. Consequently, the date at which an institution requires new facilities is delayed until enrollment reaches the capacity of the campus under a year-round calendar. When this occurs, needs for additional facilities will be determined by projected enrollments under year-round operation. For any specific large increase in projected enrollments, less space will be needed under year-round operation than under the traditional academic year, although initially some new facilities may be required.

Capital funding for auxiliary enterprises may be increased. A full summer term will produce more income from student rental of residence halls and parking space and from incidental fees for student unions, hospitals and other services; thus increasing, to an extent, funds available for constructing facilities for auxiliary services.

Year-round use provides greater flexibility in respect to many faculty options and opportunities. As the number of terms in which a college or campus is operated each year increases, more options become available to faculty. Faculty may be allowed to increase their annual income by working an additional term. Faculty wishing to use a term for study, travel, or relaxation may find teaching responsibilities scheduled to permit teaching for the remaining terms without reduction in their established rates of pay.

Faculty participation in the development of educational policy can be increased when each term is like every other one and, therefore, faculty senates, committees and other groups meet throughout the year. In addition, institutional uses of faculty can become more varied. For example, if the responsibility of the faculty to the institution is seen as extending over a number of continuous terms (as seven quarters or five trimesters) the institution can reduce its need for added staff. This advantage may assume increasing importance as the supply of graduates at the Ph.D. level decreases proportionately to enrollment. Each added term, furthermore, provides an additional opportunity to employ visiting professors to be observed in order to appraise them for possible permanent faculty appointment.

Year-round operation accords greater flexibility to student options and opportunities. The working student is provided more options as the number of terms increases each year. At present, temporary jobs seem to be more plentiful in relation to the supply of workers in the fall, winter and spring, than in the summer, however a change in the supply of students could modify the situation.

Each student can develop a pattern of attendance best suited to his needs and capacity. Some may accelerate graduation by continuous attendance, some may select terms when classes will be taught by favored faculty, and others may be better able to interrupt college work for health or other reasons. Lastly, extra-curricular activities may be conducted on a year-round basis.

Problems of Year-Round Operation

The advantages outlined above fully justify decisions to initiate year-round operation of higher education in California. However, certain problems must be solved if year-round operation is to succeed efficiently and benefits are to be realized to their fullest extent. Among these problems the following may be cited:

Both faculty and students may become fatigued with continuous programs. Faculty members are accustomed to working for a traditional academic year, or for an academic year and a summer session.[1] A change to year-round operation, if accompanied by an increase in the number of consecutive terms taught, could result in fatigue of the faculty member, for studies of professional workers show more frequent reports of fatigue when the period of work is increassed without their consent. Continuous attendance may produce the same result among students who have established a pattern of college left which includes a break in the academic routine by a summer of work or recreation. However, it must be noted that some institutions report that student attitudes toward college and college work improve with more continuous attendance.

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[1] A study by the Research Division of the National Education Association shows that less than 50% of the faculty in 658 institutions were engaged in summer teaching for which they were paid. The median length of the summer term in these institutions was 8.1 weeks. Salaries Paid and Salary Practices in Universities, Colleges, and Junior Colleges, 1961-62, (Washington D. C: NEA, 1962), P. 28.

The year-round operation of an institution may result in the understaffing of administrative and other central offices and services. Greater use of physical plant for more weeks of the year provides less time for custodial operations and maintenance work, maintenance scheduling becomes more complex, and wear and tear increases. Added admissions periods, examinations, registration and grade recording require additional staff time on a yearly basis. Library staff workload is increased with preparing reserve book lists, placing books on reserve, maintaining libraries at full levels of operation more weeks in the year, etc. Additional workload is placed upon those planning class schedules not only for an additional term or terms, but in longer range planning in order to provide the minimum desirable number of sections of adequate size throughout the year.

Articulation with secondary schools and other institutions of higher education not on year-round operation may be less effective. Whenever educational institutions in the same state operate with markedly different calendars for beginning and ending terms, students face difficulties in transfer. As an example, most secondary schools in California graduate students in June,[1] similary most Junior College graduates complete their work in the same month. Therefore, year-round operation should be scheduled so that June graduates (or June transfers) may enter at the beginning of a summer term. In addition, many faculty members in public schools and Junior Colleges plan to study during the summer. A summer term should start at a time when they are able to enter, end before school re-opens in the fall, or a special summer session for teachers should be provided.

To be efficient, year-round operation requires adequate enrollment in classes offered during each term. The importance of adequate summer enrollment to efficient use of plant has been described at the outset in the discussion of balanced enrollment concepts. To a degree, summer enrollment is a function of over-all enrollment -- the larger the institution the greater the chance of securing a summer enrollment which will fill the classes which are offered. No definitive minimum enrollment can be supported by available research results; however, the nature of the problem indicates that a large over-all enrollment is necessary for economical and efficient operation.

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[1] In the school year 1962-63 about 95% of all California public high school graduates were graduated in June.

Year-round operation may cause an institution to compress a term into too few weeks. The difference between a 16-week term for example, and an 18-week term may at first view seem small, but even a tendency to compact education may be undesirable. A student learns under the guidance and direction of the faculty. Out-of-class time is spent in study, research, writing, computing, laboratory exercises, conferences with faculty advisors, preparing for tests, being tested, and so on. When both the number of weeks available for these activities and the out-of-class time available per week is reduced, some students will learn less.

Faculty now spend a designated number of hours in teaching with time outside class devoted to scholarly study or research, preparation for teaching, preparing and correcting examinations, reading students' written work, advising students, participating in policy development, public service, and in other activities which are part of a professor's work. When the number of weeks in a term is decreased with no decrease in the number of hours of instruction over the term, teaching takes more time per week than at present. A professor must choose either to work for more hours each week, or to reduce time spent on other aspects of his work. Despite the best of intentions, it is doubtful that faculty can increase their work-week permanently by a significant number of hours.

THE YEAR ROUND CALENDAR: COMPARISONS OF THE TRIMESTER AND QUARTER CALENDARS

Two academic calendars designed to provide for the full year use of facilities can be given greatest consideration by the segments of higher education in California: the trimester (three term) and the four-quarter calendars.

The trimester calendar is essentially an adaptation of the present two-semester calendar now in use in most of the state's colleges and universities. The current two, 18-week semesters each include time for students to receive advice on their academic course work, to register, to be instructed in classes and to be examined. The fall term of this calendar is widely critized because of its interruption by a long Christmas-New Year's holiday. Often students may return for as few as ten days of study to be followed by an extensive examination period. The trimester calendars considered within this report are composed of 16 weeks each. This division may allow for the placing of long vacations between terms thus meeting the criticism of the present system. Each of the trimester terms provides time for students to be advised, register, be taught and to be examined as under the calendar now in general use.

The four-quarter calendar is an adaptation of the three-quarter calendar now in use in some institutions. Each quarter under such an organization generally contains 10 to 12 weeks during which time the student is advised, registered, taught and examined. For the purposes of this report, all quarters are considered to be 12 weeks long.

In the following table sample calendars are presented for 1964-65 showing dates for terms in the four quarter calendar, two versions of the trimester calendar, and the traditional two-semester academic year.

TABLE 1
Sample Calendars 1964-65

	Four-Quarters	Trimester A	Trimester B	Two Semesters
Fall term 1964 begins	Sept. 28	Aug. 28	Sept. 25	Sept. 9
Christmas recess			Dec. 21 - Jan. 4	Dec. 21 - Jan. 4
Fall term ends	Dec. 19	Dec. 19	Jan. 30	Jan. 26
Winter term begins	Dec. 28			
Winter term ends	Mar. 20			
Spring term begins	Mar. 24	Jan. 4	Feb. 5	Feb. 1
Spring term ends	June 22	Apr. 27	May 27	June 10
Summer term begins	June 28	Apr. 30	June 4	
Summer term ends	Sept. 17	Aug. 21	Sept. 24	
Fall term begins	Sept. 27	Aug. 27	Sept. 27	Sept. 8

The following pages present comparisons which may be made between these two, 12-month calendars.

Educational Service to California

Currently California public institutions of higher education provide two, 18-week semesters of educational service. With year-round operation under a trimester calendar, educational service would be increased to three, 16-week trimesters. The change from 36 weeks to 48 weeks would be an increase in service of 33-1/3%. With four, 12-week quarters, the same increase in service would occur. Thus, under year-round operation, both calendars provide the same amount of educational service.

However, if all public institutions of higher education were to adopt the same calendar, but only a few were to operate year-round, the trimester calendar would reduce educational service. Each college which operated for only two trimesters would provide 32 weeks of service instead of the current 36. A uniform change to a four-quarter calendar would find each college providing at least three, 12-week quarters of service, the same 36-week total as at present.

Flexibility for Faculty and Students Options

The variety of possible uses of faculty by institutions under the trimester calendar does not differ significantly from that under the four-quarter calendar. However, the trimester calendar provides a longer time for study, rest, or travel for faculty not at work; on the other hand, the four-quarter calendar provides one more term per year in which faculty can exercise options to study, travel, or relax. The four-quarter calendar provides more frequent opportunities to employ visiting faculty. Lastly, when faculty can be absent any one of four terms as opposed to any one of three, the development of educational policy becomes somewhat more complicated.

Students options of terms in which to work, travel, relax, etc., are somewhat greater under a four-quarter calendar than under a trimester calendar.

If students are allowed to accumulate the same amount of academic credit in a 16-week trimester as in an 18-week semester, those choosing to accelerate fully may graduate in a minimum of 8 trimesters or 2-2/3 years, or 3 calendar years under the four-quarter plan. However, the dangers of compaction of academic program should be recognized.

Balancing Enrollment Among Terms

With four terms as opposed to three, there is an additional opportunity for students to drop out of college, or to be dropped. There is also one more time to enter, either as a new student, a transfer, or as a returning student. No data are available to determine the overall effect of these opportunities. They are assumed to counteract each other, leaving no difference between the two calendars in this respect.

When balance is to be achieved by advice and allurement rather than compulsion, the greater flexibility of the four-quarter calendar is an advantage. When balance is to be achieved by control, the problem of assigning students to terms in which to enter and to attend subsequently is less complicated under a trimester calendar, with fewer terms to introduce into annual calculations. However, under a four-quarter calendar, students assigned to terms are able to enter with less delay and are in college for four more weeks each year than in a trimester calendar when they do not attend one term each year.

Content, Duration and Scheduling of Courses

Compacting an 18-week course into 16 weeks in the trimester calendar may be accomplished by a slight increase in the number of class sessions per week, by eliminating some peripheral course content, by adding to out-of-class assignments, by reducing examination periods, or by other relatively minor adjustments. Increasing class hours per week requires more faculty, if present staffing formulas are retained, new formulas if the number of faculty is not increased.

Changing from an 18-week quarter, creates greater difficulties in respect to the duration of courses, the number of hours per term for which a course should be scheduled, the number of sections to be offered, the use of laboratories, etc. Many students of higher education are convinced that any situation which calls for wide restudy of course content is highly desirable; others believe that a change of calendar produces time consuming busy-work rather than fundamental revision.

Further, certain courses require the use of facilities not directly under the control of the college and which may not be available during a summer term. Student teaching, teaching or administrative internships, and field experiences in public schools are examples of courses which cannot be scheduled for all students in the summer. Other courses, such as those in agriculture concerned with specific aspects of a crop, must be scheduled on a seasonal basis. The four-quarter academic year will allow more opportunities for scheduling such courses than will the three term trimester.

Administration

Record keeping in respect to students, such as registration, recording grades, distributing grades, evaluating progress, admission of students, and the evaluation of transcripts for new students, is usually repeated each term. Four quarters would seem to require one more set of entries that would three semesters. Certainly this will be true where methods and procedures are traditional, but rapid development of new techniques, especially those which involve data processing, may make this difference almost insignificant.

An additional movement of library books to and from reserve shelves might be required by the four-quarter system. However, a possible reduction in the number of one and two hour courses and the necessity of scheduling in each term all sections of a year's course cycle could produce some compensatory reduction of work.

Year-round operation under either calendar will increase wear and tear on physical plant and equipment and will reduce the time when normal maintenance can be performed when plant is not in use. Scheduling this work in late afternoons and evenings will be necessary. When extensive repairs require that a classroom or laboratory be closed for a term, the four-quarter calendar provides slightly greater flexibility. Additional second level administration, required by year-round operation, will be needed to about the same degree under either calendar.

Education of Largest Possible Number

There is little evidence to prove one calendar preferable to another in providing education for the greatest possible number. Presumably more opportunities to enter college, or to return to it, will attract more students giving a slight theoretical advantage to the four-quarter calendar. But an additional term in which to drop out, or be dropped, might reduce the length of time spent in college. On the other hand, the quarter calendar may encourage more part time students with the shorter term and more entrance periods in the year.

Articulation

Articulation is best achieved when the most students may progress from one institution to another with the least delay. In respect to secondary schools, progress into college for June graduates has normally been delayed until September. A change in college calendars would enable them to progress into college at an earlier date. A few students (about 5% in 1963) graduate from high school at mid-year. They have often been able to enter college at the start of the second semester or, in colleges on a quarter calendar, the spring quarter. If a change which enables June graduates to enter college earlier should delay the entry of mid-year graduates, the overall effect is preferable because of larger numbers of students benefiting from the change.

For graduates of Junior Colleges, the problems of articulation are about the same as for graduates of high schools. Presidents of California Junior Colleges appear to be more than two to one in favor of the quarter calendar when considering the matter of articulation. Junior College presidents replied to a questionnaire as follows:

Query	A trimester calendar would be best for the Junior Colleges	A four quarter calendar would be best for the Junior Colleges
1. If the State Colleges and University use a trimester calendar --	45 (Replies)	8
2. If the State Colleges and University use a four-quarter calendar --	5	48
3. If the State Colleges use a trimester calendar and the University uses a four-quarter calendar --	36	12
4. If the State Colleges use a four-quarter calendar and the University uses a trimester calendar --	6	41

Junior College presidents also indicated their preference by more than two to one (38-16) that should year-round operation be instituted at the State Colleges and the University, the four-quarter calendar would best articulate with the Junior Colleges' present two-semester calendar.

Replies were received from 58 colleges, 29 of which included some additional comment. The most frequent comment was that Junior Colleges looked first to articulation with high schools. The most vigorously worded comments argued for use of the same calendar by the State Colleges and the University. Several questioned the economy of year-round operation.

Some students, in four-year colleges transfer to Junior Colleges, planning to return to their prior college at a later date; others transfer from one four-year college to another. For these persons, articulation is best when delay in starting at a new institution is least.

The table on the following page shows the least number of days (using the sample 1964-65 calendars) which would elapse between the end of a term under one variety of calendar and the beginning of the next term under another variety of calendar. It is assumed secondary schools and Junior Colleges will continue to operate on a two-semester calendar, with almost all graduates completing their work in June. Thus, of importance are the figures which show the time elapsing between the end of the spring semester calendar and the start of the next term which a student could enter under a trimester or four-quarter calendar. In this instance the four-quarter calendar has an advantage of 59 days over Trimester A and of 71 days under Trimester B.

If it is assumed that State Colleges and the University use the same calendar, transfers between these segments or within them can occur with little delay. In articulation with the private segment in California, or with public or private colleges elsewhere, the two-semester calendar is used most widely in the United States and the three-quarter calendar is next most widely used. While starting and closing dates of terms will vary, the four-quarter calendar will relate to the two-semester calendar in about the same advantageous way as to the sample used above, and will relate even better to three-quarter calendars.

TABLE 2

Number of Days Elapsing Between End of Term in One Sample Calendar and the Beginning of Next Term in a Different Sample Calendar

	Beginning of Term Four-Quarter				Beginning of Term Trimester A[1]			Beginning of Term Trimester B[1]			Beginning of Term Two-Semester	
	F	W	Sp	Sum	F	Sp	Sum	F	Sp	Sum	F	Sp
End of Term - Four-Quarter												
Fall						15			47			75
Winter							40			33	143	
Spring					65			97			78	
Summer						108		10				146
End of Term - Trimester A												
Fall		9										43
Spring				62							134	
Summer	36										14	
End of Term - Trimester B												
Fall		42										2
Spring			30								100	
Summer	3											130
End of Term - Two-Semester												
Fall		58				92			10			
Spring			18	77		92		89				

[1] Times elapsing between terms of Trimester A and those of Trimester B are not included since both calendars would not exist at the same time.

A Summary of Comparisons of Trimester and Four-Quarter Calendars

The preceding has compared the trimester and four-quarter calendars in several different ways. The trimester calendar was seen to be more advantageous in respect to the following: length of term for faculty study, rest, or travel; continuous faculty development of educational policy; acceleration of graduation if compaction of education is permitted; the least revision of courses; the least amount of added record keeping, and the least amount of added library work.

The trimester and the four-quarter calendar were seen to be about the same in respect to use of faculty by institutions; the effects of drop-outs, dropped students and transfers on enrollment; increase in normal maintenance; need for added second-level administration, and education of the largest possible number of students.

The four-quarter calendar was seen as more advantageous in respect to the amount of educational services to the state by colleges operating for an academic year; the flexibility of faculty or students options, achieving balanced enrollment by advice and allurement; the possibility of substantial revision of courses; use of facilities not under the control of the college, and articulation with secondary schools and among institutions of higher education.

A COMPARISON OF POSSIBLE COSTS OF OPERATION UNDER EACH YEAR-ROUND CALENDAR

Although the four-quarter plan may be more appropriately applied to the California systems of public higher education than the trimester plan because of its greater flexibility, better articulation with other educational institutions, and greater educational service to the state from institutions not operating year-round, possible relative costs of instituting these two calendars must be considered carefully.

For the purpose of this discussion, a comparison of probable, relative costs of year-round operations under each calendar does not require the detailed information needed to determine whether or not a budget request is defensible. However, with the selection of the appropriate calendar and a determination of the timing for the institution of that calendar and true year-round operations, each segment will, in due course, prepare budget requests for initiating year-round operation. Such requests will be reviewed and commented upon by the Council.

Even for the purpose of comparing probable relative costs under each calendar the problem of estimating is not only complex but, also in certain aspects, borders on being paradoxical. For example, a change in calendar will not increase the total number of students to be educated in campuses and colleges of higher education (see assumption 1 below), yet the first campuses or colleges to operate year-round will enroll more students than if operated for a traditional academic year. Or again, the use of instructional costs as the basic element in formulas used to develop budgets is widely recognized procedure, yet the application of formulas developed for academic year budgets to instructional cost of year-round operation produces inflated totals. Such use of formulas has an exaggerated impact upon estimates of costs of trimester plan operation when instructional salaries are estimated to increase by 50% under the trimester plan as opposed to 33-1/3% under the four-quarter plan.

After initial discussions of the segments' preliminary estimates submitted to the Council, the following assumptions were developed by the Council staff for use by the segments in preparing subsequent estimates:

1. Under year-round operation, each segment will serve the same community of students as projected for it under operation for an academic year, with more flexibility and consequent greater efficiency in use of physical plant.

   Corollary a. Any increase in enrollment at colleges or campuses initiating year-round operation will reduce enrollment at other colleges or campuses in the segment.

Corollary b. When an entire segment is operating year-round, it will serve no more students than are projected for it when operating for an academic year.

Note: The validity of this last corollary should be examined after experience under year-round operation. In general, increasing the availability of higher education increases the number of persons who take advantage of it. This may occur with year-round operation.

2. Within a relatively brief period of time, each segment will reach the goal of balanced enrollment--approximately the same enrollment in each term--in colleges or on campuses operating year-round.

3. Operating costs, with minor exceptions, are functions of the size of the enrollment and the total number of weeks in the calendar.

Corollary a. Student-faculty ratios and teaching loads will continue as at present.

Corollary b. Students and regular faculty will be provided services in the summer term equivalent to those provided in other terms.

Corollary c. Faculty salaries will be based upon[1] the number of weeks of educational service provided by the full-time staff during the year.

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[1] Representatives of the California State Colleges and of the University of California have argued that a change from an 18-week semester to a 16-week trimester should not result in a reduction in salaries for faculty who teach two trimesters. They point to practices elsewhere in the United States where faculty salaries for two 16-week semesters equal California salaries for two 18-week semesters. Thus they do not accept the use of the corollary assumption when applied to a trimester salary. If it were so used, for example, a professor receiving $9,000 for two 18-week semesters would receive only $8,000 for a 16-week trimester. The staff does not believe that practices elsewhere can justify maintaining the same salary for reduced service to the State. However, the segments accept this corollary assumption in respect to the four-quarter calendar.

Corollary d. Research support will be provided regular faculty in the summer term equivalent to that provided in other terms.

Corollary e. Current standards for utilization of plant will be maintained.

4. Additional regular staff required in colleges or on campuses where year-round operation is initiated will be provided offices equivalent to those now available for the current staff.

When the above assumptions of the staff are used, probable costs of year-round operation may be compared as follows:

Item	Costs are greater under a trimester calendar	There is no difference in costs	Costs are greater under a four-quarter calendar
General Administration		X	
Instruction		X	
Library		X	
Organized Research		X	
Plant Operation and Maintenance	X		
Student Services			X
Staff Benefits	X		
General Institutional Service & Expense	X		
Capital Outlay - (Office Space)	X		

The slightly greater cost of student services under the four-quarter plan is the result of added record keeping and reporting for four terms, rather than for three.

A change from semesters to quarters will require an initial expenditure of funds in order to revise courses and curriculums, report forms, class schedules, etc., which will be somewhat greater than for a change from semesters to trimesters. This expenditure will not continue to be required when all colleges or campuses in a segment are on a four-quarter calendar.

Since each segment will be capable of housing and teaching more students in any given sized plant under year-round operation than under operation for an academic year, the rate at which new facilities will be required will be reduced. The reduction in rate will be due to two factors: balanced enrollment and student acceleration. In respect to the first factor, both calendars have about the same effect. In respect to acceleration, if a student is allowed to accumulate as much academic credit in a trimester as in a present semester, the use of a trimester calendar may extend the time before new facilities are needed beyond that for the four-quarter plan. Predicting the extent to which acceleration or balance will occur when students are not compelled to do either must be postponed until data from experience in California are available. It is doubtful that a substantial difference in the reduction of rate of requiring new facilities would be found for either the trimester or four-quarter calendars. Reduction in capital outlay results from year-round operation under either calendar.

Any differences in cost of operation, excluding capital outlay, arising from use of a four-quarter calendar as contrasted with a trimester calendar, are not of sufficient magnitude to warrant rejection of this calendar.

CONCLUSIONS

Effort has been made in the foregoing pages to identify and appraise the major problems inherent in the conversion of the academic calendars of the University of California and the California State Colleges from the current prevailing pattern of two semesters [1] and summer sessions of varying lengths to either a trimester or four-quarter plan to achieve full year use of facilities together with complete academic course offerings in all terms.

The magnitude of such a change may be envisioned when it is shown that these two systems had in the fall of 1962, 145,185 full-time students and a full-time faculty of 8,145. Inclusion of the public Junior Colleges adds 121,283 full-time students and approximately 6,300 full-time faculty. According to the Master Plan estimates, these three public segments will enroll nearly 600,000 full-time students in 1975, and have a full-time faculty of more than 38,000.

Analysis of the experience of institutions where calendar changes have been made and of information supplied by the segments leads to the following conclusions:

1. There is no evidence to show that the kind of academic calendar in use will influence the quality of education programs.

2. The four-quarter calendar may be more appropriately applied to the California systems of public higher education than the trimester plan because of its greater flexibility, better articulation with other educational institutions and greater educational service to the state from institutions not operating year-round.

3. Best results will be obtained if the University of California and the California State Colleges and the California public Junior Colleges have the same system-wide basic calendar.

4. Since the four-quarter calendar is best for year-round operation, its use in colleges and on campuses not on year-round operation will provide the best articulation with those which do operate year-round.

5. Differences in costs of year-round operation under a four-quarter calendar as compared with a trimester calendar are not of such magnitude as to warrant rejection of this calendar.

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[1] The current exceptions being California State Polytechnic College and California State College at Hayward.

6. Some added second level administration will be required when a college or campus moves to year-round operation.

7. Although each system should develop requirements by which it determines when a given campus or college should add a fourth quarter, the requirements of each system should aim toward providing more education for more students within prudent increases in operating costs due to year-round operation.

8. The year-round operation of public schools, colleges and universities has won strong support, particularly from governing boards, legislators, and the public on the principle of better use of physical plant. The full benefit of this can be achieved only by the fullest possible, reasonable use of facilities.

9. With the number of governing boards in charge of the public Junior Colleges, it is not feasible to obtain with any degree of immediacy a unified action on year-round operation. Moreover, with the great range in full-time enrollments among the Junior Colleges, statewide actions should exempt those with minimal enrollment.

10. A special summer school may be needed for teachers and others whose duties conflict with a summer quarter.

A P P E N D I C E S

APPENDIX A

A Summary Comparison of the 16-16-12, 16-16-6-6 and 18-18-12 Calendars with the Trimester and Four-Quarter Calendars

As stated at the outset of the preceding report, the Council selected for its primary consideration the trimester and four-quarter calendars in the belief that these two calendars were the most appropriate vehicles for the institution of year-round operation of California's institutions of higher education. However, during the development of the recommendations of the Council it was proposed that other, possible calendars should be examined. Consequently, the Council staff, together with the Technical Committee for the Year-Round Calendar, reviewed three other possible arrangements of terms: the 16-16-12, 16-16-6-6 and 18-18-12 calendars. Results of comparisons of these three calendars among themselves and with the trimester and the four-quarter calendars are summarized below.

The 16-16-12 calendar consists of two semesters of 16 weeks each plus a summer term of 12 weeks. The 16-16-6-6 calendar is a modification of the 16-16-12 substituting two, six-week summer sessions for the 12-week summer term. The 18-18-12 calendar for year-round operation of higher education would add a 12-week summer term to the present two 18-week semesters. How well do these three calendars meet requirements for year-round operation?

The Three Calendars and Year-Round Operation

Taking note of the problems of serving California's many students, the Master Plan provided that the Coordinating Council study:

> . . . The relative merits of the three-semester and four-quarter plans for year-round use of physical plants of both public and private institutions, and on the basis of that study recommend a calendar for higher education in California.[1]

While the Master Plan refers to "year-round use" of facilities, the Plan did not make specific definition. However, as presented in the preceding report, "year-round use" or "year-round operation" may be defined as follows:

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[1] Master Plan, p. 8.

A college is operating year-round when the following conditions usually prevail:

1. A beginning freshman may enter at the start of any term - whether a segment of a three-term calendar (trimester) or four-quarter calendar.

2. Transfer students may enter at the beginning of any term.

3. As a general rule, both entering and continuing students can enroll in courses which enable them to make a full term's progress toward their desired degree.

4. Almost all students can continue in college for any number of consecutive terms in each of which they can make a full term's progress toward their desired degrees.

5. Optimum use of physical plant is made for at least 48 weeks annually; such optimum use to include providing space for advising students, registration, instruction and testing.

6. Student enrollment is roughly the same in all terms.

In terms of the above definition the three calendars may be evaluated.

The 16-16-12 and 16-16-6-6 calendars would permit a beginning freshman or a transfer student to enter at the start of any term and student enrollment could be roughly the same in all terms, thus the calendars would meet conditions 1, 2, and 6.

However, due to the shorter summer terms, students could not make the same full term's progress toward a degree in this season as they could in the fall or spring. The 16-16-12 and 16-16-6-6 calendars do not meet conditions 3 and 4.

The major defect in the 16-16-12 and 16-16-6-6 calendars is that they provide only 44 weeks of optimum use of physical plant, as contrasted with 48 weeks provided for in condition 5. Extending use of the plant from 36 weeks under two semesters to 44 weeks under these calendars accomplishes no more than is achieved under two, 18-week semesters and an 8-week summer session. A major revision of calendar without substantial added use of physical plant cannot be justified readily, if at all.

The 18-18-12 calendar would permit a beginning freshman or transfer student to enter at the start of any term; student enrollment could be roughly the same in all terms, thus the calendar could meet conditions 1, 2, and 6.

However, due to the shorter summer term, students could not make the same full term's progress toward a degree in this season as they could in the fall or spring. The 18-18-12 calendar does not meet conditions 3 and 4.

The 18-18-12 calendar provides the 48 weeks of plant use called for under condition 5.

The 16-16-12 and 16-16-6-6 calendars fall so far short of the definition of year-round operation, that they could be eliminated from further consideration. The 18-18-12 fails to meet two elements in the definition, but does meet four others.

While the 18-18-12 calendar of the three calendars presented best meets the definition of year-round operation, a significant difficulty is encountered in attempting to effectively operate a campus or college within the calendar. In two 18-week semesters in which a Christmas vacation is included in the fall semester, the progression through the week of the days on which Christmas and New Year's Day fall creates a problem in respect to the length of the Christmas recess. When the summer term is of six or eight weeks, the close of the fall and of the spring semester may be easily varied to take into account the progression of these holidays. However, when the summer term is of twelve weeks, varying the close of the fall and spring semesters to take into account the progression of the holidays forces a progression of the opening date of the fall term in the subsequent year. Over the years, this produces a later and later opening date. To avoid this effect, periodic variation of the length of the between-term recesses is necessary, as shown below:

Possible 18-18-12 Calendars

Academic Year	Opening of term	Close of term	Number of weeks	Dates of Recesses
1962-63	September 10	January 23	18	December 23 - January 2
	January 31	June 5	18	January 24 - January 30
	June 13	September 4	12	June 6-12
				September 5-9
1963-64	September 9	January 25	18	December 22 - January 5
	February 3	June 6	18	January 26 - February 4
	June 15	September 5	12	June 7-14
				September 6-9
1964-65	September 10	January 27	18	December 28 - January 3
	February 1	June 5	18	January 28 - 31
	June 9	September 1	12	June 6-8
				September 2-5

Criteria for Comparison

While the 18-18-12 calendar is the only calendar which approaches the established definition of year-round operation, all three calendars may appropriately be discussed within terms of the several criteria employed in the comparison of the trimester and four-quarter calendars in the preceding report. These criteria included: (1) educational service to California, (2) flexibility for faculty and students options, (3) balancing enrollment among terms, (4) content, duration and scheduling of courses, (5) administration, (6) education of the largest possible number, (7) articulation, and (8) comparative cost.

Educational Service to California. Currently almost all public institutions of higher education in California provide two 18-week semesters of educational service, often with an added 6 or 8-week summer session. A change to either the 16-16-12 or the 16-16-6-6 calendar would provide 44 weeks of service, the same as at present. However, if all public institutions of higher education were to adopt either of these two calendars, but only a few were to operate year-round, a reduction in educational service would result. Each college not on year-round operation would provide 32 weeks of service as contrased with 36 weeks at present.

The 18-18-12 calendar would continue to provide the same number of weeks of service in all institutions not moving to year-round operation and would extend service to 48 weeks in those on year-round operation.

Flexibility for Faculty and Student Options. In general, flexibility for options is greatest when all terms are equal and dropping out for any one term carries no greater penalty than dropping out for any other term. When terms are unequal, as in these three calendars, flexibility is lessened. Faculty choosing to study, relax, travel, etc., in a 16-week or 18-week term could not recuperate financially in a 12-week term. Students choosing to use a 16-week or 18-week term to work, travel, relax, etc., could not make as much progress toward a degree in a 12-week term as they had lost while out of college.

Under the 16-16-12 and 16-16-6-6 calendars, faculty choosing and allowed to teach all three terms would have eight weeks of rest and study as opposed to four weeks under either a trimester or a four-quarter calendar. The possibility for added use of existing faculty is of advantage in the immediate future when shortages may be severe.

Faculty choosing and allowed to teach all three terms of an 18-18-12 calendar would have about four weeks of rest and study, the same as under either a trimester or a four-quarter calendar. The possibility for added use of existing faculty, of advantage in the immediate future when shortages may be severe, is not great.

If a 12-week summer term is to be of equal quality to other terms, it requires the presence of the same proportion of major faculty members. When summer terms are shorter than other terms, with consequently less income to a professor, the opportunity for scheduling faculty in the summer rather than in another term is sharply restricted. Thus the 12-week summer term will not usually have an adequate basic core of major faculty members.

A 12-week summer term, if it coincides with customary summer quarter terms elsewhere, would provide some opportunity for securing visiting faculty. However, few faculty members desire to begin summer teaching at another institution without some rest, or to begin a fall term directly after a summer term.

Under the 16-16-6-6 calendar, either 6-week term could be added to the normal academic year's teaching thus calling for 38 weeks of service in contrast to the 36 weeks now required. The added two weeks would still seem to allow adequate time for vacation and rest. By careful scheduling of faculty in each of the two 6-week terms, some degree of quality can be maintained.

Under the 18-18-12 calendar scheduling difficulties caused by the progression through the week of Christmas and New Years, described earlier, may result in a 12-week summer term which does not fit the usual two-semester calendar, thus reducing sharply the possibility of using visiting faculty.

Balancing Enrollments Among Terms. Lessened flexibility may act against balancing enrollment; a shorter summer term may seem more attractive than a longer one to many students. Over all, there would seem to be as much chance of achieving balanced enrollment under a 16-16-12 or an 18-18-12 calendar as would be the case under either a trimester or a four-quarter calendar.

Under a 16-16-6-6 calendar, difficulties in achieving balanced enrollment are increased by the problem of securing balance between the two 6-week summer terms. For example, an influx of public school teachers in one term would require a similar influx from other sources in the other 6-week term if balance were to result.

Content, Duration and Scheduling of Courses. Compacting an 18-week course into 16 weeks may be accomplished by a slight increase in the number of class sessions per week, by eliminating some peripheral course content, by adding to out-of-class assignments, by reducing examination periods, or by other relatively minor adjustments. Increasing class hours per week requires more faculty if present formulas are retained, or new formulas if the number of faculty is not increased.

Changing from a 16-week semester to a 12-week summer term creates greater difficulties in respect to the duration of courses, the number of hours per summer term that a course is to be scheduled, the number of sections to be offered, the use of laboratories, etc. For example, a course should meet for as many hours in a 12-week term as in a 16-week term if it is to carry equivalent credit. This means that each hour in a 16-week term calls for 1-1/3 hours in a 12-week term, thus each class of equivalent credit uses a classroom for one-third more time during the 12-week term than would be true during the 16-week term. The number of classrooms is constant during any one year; if they are used with equal efficiency in each of the 16-16-12 terms, one-fourth fewer classes or sections of classes can be scheduled in the 12-week term. Educational service, in terms of course offerings, is reduced by one-quarter in the 12-week summer term.

Changing from an 18-week semester to a 12-week summer term also creates difficulties in respect to the duration of courses, the number of hours per summer term that a course is to be scheduled, the number of sections to be offered, the use of laboratories, etc. For example, a course should meet for as many hours in a 12-week term as in an 18-week term calls for 1-1/2 hours in a 12-week term, thus each class of equivalent credit uses a classroom for one-half more time during 12 weeks than would be true for 18 weeks. The number of classrooms is constant during any one year; if they are used with equal efficiency in each of the 18-18-12 terms, one-third fewer classes or sections of classes can be scheduled in the 12-week term. Educational service, in terms of course offerings, is reduced by one-third in the 12-week summer term.

A summer session of six weeks presents even greater problems. In many academic subjects, of which literature, philosophy, history and economics are examples, time for reading, thinking, and writing is essential to optimum learning. In other academic subjects, such as foreign language, mathematics, and some sciences, intensive study for long periods of time each day can produce excellent results in six weeks. Wise educational planning produces a maximum number of courses in areas where concentrated study is likely to be productive, a minimum number of courses which require time for thought, reading and writing. Uniform quality of the level which is achieved in fall and spring semesters cannot characterize six-week summer sessions. At their best, they provide a needed educational service to persons who cannot attend for a longer period, but not the best quality educational experience.

The problem of scheduling class hours so that courses offered in a six-week summer term can carry credit equivalent to that in a regular term is almost insurmountable for courses where concentration is undesirable. The more common solution is to reduce the credit which is commensurate with the number of class hours. One credit and two credit courses rarely provide adequate opportunities for normal progress toward a degree.

Administration. Additional second-level administration required for year-round operation will be about the same under a 16-16-12, 16-16-6-6 or an 18-18-12 calendar as under either a trimester or a four-quarter calendar.

Education of the Largest Possible Number. There is little evidence to prove one calendar preferable to another in providing education for the greatest possible number.

Articulation. The 16-16-12 or the 16-16-6-6 calendar, with reduced terms in fall and spring, can be scheduled to begin and end at dates which provide optimum articulation with secondary schools and with other segments of higher education.

The 18-18-12 calendar cannot be scheduled readily to begin and end at dates which provide articulation with secondary schools and with other segments of higher education, due to the changes in recess periods resulting from progression of the holidays.

Comparative Costs. Faculty salaries are the largest single item in the cost of higher education. At present, two 18-week semesters constitute the academic working year upon which salaries are based. A reduction to two 16-week semesters would be accompanied either by a one-ninth reduction in salary or by leaving salaries at their present level and treating this as an 11% increase in pay, or by some procedure between the two. Under the first alternative, a professor receiving $9,000 for a 36-week academic year would receive $8,000 for a 32-week academic year. Under the first alternative, a professor receiving $9,000 for a 36-week academic year would receive $8,000 for a 32-week academic year. Under the second, his salary would remain at $9,000, an increase of 11% over $8,000. Under the third, his salary would of somewhere between $8,000 and $9,000, with the amount over $8,000 representing an increase in salary.

In any case, the salary for the 12-week term would be three-fourths of that for the 16-week term. Under the first alternative above, a professor now receiving $9,000 for two, 18-week terms, would receive $8,000 plus $3,000 for the summer term, or $11,000 in all; under the second alternative, the figures would be $9,000, $3,375 and $12,375; under the third alternative, the figures would fall somewhere between these two sets. The 18-18-12 calendar main-

tains this working year for the fall and spring terms. The salary of a professor teaching in the 12-week summer term would be one-third of his salary for the academic year. In a case where the salary for the academic year were $9,000, summer salary would be $3,000 for a total of $12,000 for 48 weeks service.

Under the four-quarter calendar, three 12-week terms produce the same 36 weeks of service as are produced now by two 18-week terms. The possibility of either reducing pay or of using an 11% increases to maintain present rates of pay does not exist. A professor receiving $9,000 for three 12-week terms would receive an added $3,000 for a fourth 12-week term, or $12,000 in all.

Tabular Comparisons of the above Examples

	Academic Year		Summer Term		Year-Round	
	High	Low	High	Low	High	Low
Trimester	$9,000	$8,000	$4,500	$4,000	$13,500	$12,000
Four-Quarter	9,000	9,000	3,000	3,000	12,000	12,000
16-16-12	9,000	8,000	3,375	3,000	12,375	11,000
16-16-6-6	9,000	8,000	1,687 or	1,500 or	10,687 or	9,500 or
			3,375	3,000	12,375	11,000
18-18-12	9,000	9,000	3,000	3,000	12,000	12,000

At first glance, a 16-16-12 or a 16-16-6-6 calendar would seem to be less costly in respect to faculty salaries. However, the difference is due to the fact of reduced educational service as described above.

In other items of cost, the amount under any of these calendars would be about the same as under either a trimester or a four-quarter calendar with two exceptions: plant operation is somewhat less when plans is used for 44 weeks rather than 48 and student services may be slightly higher under a four-quarter calendar due to added record keeping and reporting.

Summary

1. The 16-16-12 and the 16-16-6-6 calendars meet three of the conditions of year-round operation (number 1, 2, 6).

The 18-18-12 calendar meets four of the conditions of year-round operation (number 1, 2, 5, 6).

2. The 16-16-12 and 16-16-6-6 calendars do not meet three of the conditions of year-round operation (number 3, 4, 5). The calendars' major defects are failure to provide 48 weeks of optimum use of physical plant and lowered quality of educational offerings in the summer term, in comparison with the fall and spring terms, due to lack of an adequate basic core of major faculty members and to inadequate variety in course offerings.

The 18-18-12 calendar does not meet two of the conditions of year-round operation (numbers 3,4). Its major defect is toward quality of educational offerings in the summer term.

3. The 16-16-12 and 16-16-6-6 calendars possess the following advantages over trimester and four-quarter calendars:

a. They provide more time for study and rest by faculty working in all terms.

b. They provide optimum articulation with secondary schools and other segments of higher education.

c. The 16-16-6-6 provides flexibility for employment of visiting faculty.

The 18-18-12 calendar has one possible advantage over the four-quarter calendar in that preservation of the present academic year calls for no reconstruction of courses during two terms.

4. The 16-16-12 and 16-16-6-6 calendars are about the same as the trimester and the four-quarter calendar in respect to:

a. Need for second level administration.

b. Education of the largest possible number.

The 18-18-12 calendar is about the same as the four-quarter calendar in respect to:

a. Cost of faculty salaries.

b. Need for second-level administration.

c. Educational service to California.

5. The 16-16-12 and 16-16-6-6 calendars possess the following disadvantages in respect to trimester and four-quarter calendars:

a. They provide four weeks fewer educational service.

b. They are less flexible in respect to faculty and student options. The 16-16-12 calendar provides few opportunities for employing visiting faculty.

c. They provide less educational service in the 12-week summer term. Problems of content, duration, and scheduling of summer courses are complex under the 16-16-12 calendar, and even more complex under the 16-16-6-6 calendar.

d. Salary costs may become more than under a four-quarter calendar, with less service provided for the added costs. While costs are slightly lower at the maximum possible estimate than under a trimester calendar, the differences are due to lessened service.

The 18-18-12 calendar possesses the following disadvantages in respect to four-quarter calendars:

a. It is less flexible in respect to faculty and student options.

b. It provides a lower quality of educational service in the summer term.

c. It provides slightly less chance of achieving balanced enrollment.

d. It provides little opportunity to employ visiting faculty.

Findings

The 16-16-12 and the 16-16-6-6 calendars are less desirable than either the trimester or the four-quarter calendar for the following reasons:

(1) They do not meet all the conditions which characterize year-round operation of higher education.

(2) They provide less educational service.

(3) The summer terms are not of the same educational quality as are the other terms due to lack of adequate variety in course offerings and of a basic core of major faculty.

(4) Salary costs may rise disproportionately to the added service provided.

The 18-18-12 calendar is less desirable than either the trimester or the four-quarter calendar for the following reasons:

(1) It does not meet all the conditions which characterize year-round operation of higher education.

(2) It is less flexible in respect to faculty and student options.

(3) The summer term is not of the same educational quality as are the other terms.

(4) It provides little opportunity to employ visiting faculty.

Appendix B

NOTATION ON SOURCES

Much of the most informative material concerning year-round operation and the trimester and four-quarter calendars has not seen published form, but is available only in the files of administrative offices in institutions where these topics have been investigated thoroughly for background to policy decisions.

Among the more complete sets of documents used in preparing this report were those of Wayne State University and the University of Wisconsin. E. Burrows Smith, Assistant to the Vice President for Academic Administration, Wayne State University, provided over 35 separate documents which were used as a basis for Wayne to move to a four-quarter calendar. A Study in Four Parts Dealing with the Feasibility of a Longer School Year for Wisconsin's Public Colleges and Universities, University of Wisconsin, January 1960, presents the material upon which Wisconsin chose to remain on a semester calendar with a modified summer session. Both sets of documents are based more upon reasoned argument than upon evidence, a characteristic of almost all material dealing with calendars and calendar changes.

The following material from the University of Pittsburgh contains some evidence drawn from experiences with the trimester calendar: Conferences on Year-Round Education, March 9, 1961; Progress Report on Year-Round Education, Vol. III, No. 1, February 1962; Background Information on the Trimester Plan of the University of Pittsburgh, A Report of the Committee on a Trimester Calendar, 1958; Carl E. Wedekind, Calendar Proposals, 1962-63, Current, A,B,C, and D, Office of Institution Planning, 1962; Report of Survey of Student Opinion Regarding Alternative Schedules for Trimester, 1961.

Reports from two other institutions deserve attention, although none contains material not found in other cited sources, they do yield added insights into the ways in which calendar problems are resolved. See: The Dartmouth Trustees Planning Committee, et al, A Joint Committee Study, An Educational Program for Dartmouth, Dartmouth College, 1956; Paul S. Dwyer, Report of the University Calendar Study Committee, University of Michigan, June 1958; Report, Commission of Year-Round Operation, University of Michigan, May 15, 1961.

A summary of year-round operations with an analysis of what does and could happen is provided in Elmer C. Easton, Year-Round Operation of Colleges, Engineering Research Bulletin, No. 41, Rutgers University 1958.

A technical study for the State University of New York argues strongly for the concept of balanced enrollments and describes procedures to achieve it: Nelson Associates, Increasing College Capacity by Calendar Revision, State University of New York, 1961.

Finally, Charles Dale Rea's study prepared at the Center for Higher Education of the University of California at Berkeley contains excellent summaries of a number of other documents hearing upon the year-round use of facilities and 12-month calendars. The report, Patterns in Year-Round Education has recently been published by Humboldt State College.